

3. DELIVERING AND ENHANCING TRANSIT SERVICE

Maintaining and improving high-quality public transit service is essential to Boston's economic and environmental health. The Boston Transportation Department promotes more efficient use of the existing system to provide better service to Boston neighborhoods and a more equitable fare policy. Enhancements to the transit system can allow the MBTA to increase capacity and improve service quality with minimal capital investment as compared to the construction of new transit lines. These relatively low-cost improvements include better information, more frequent service, expanded hours of service, station improvements, new signal and communications systems, and additional station-area parking.

The MBTA faces significant challenges to maintain and operate a subway system with a century-old infrastructure. "State of good repair" refers to acceptable standards that are necessary to operate a clean, safe, and reliable transit system by maintaining all signal, physical plant and passenger features of a system. As Figure 14 illustrates, maintaining a state of good repair is an on-going process.

Red, Orange, Blue, and Green Lines

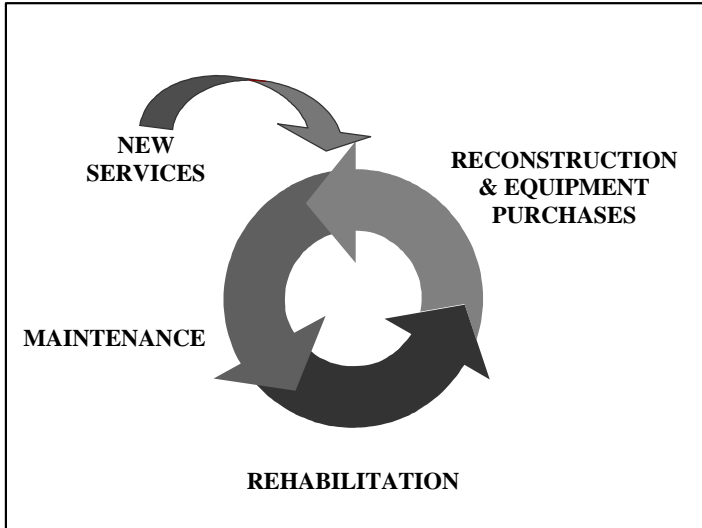
The MBTA operates three heavy rail lines (Red, Orange and Blue) and a light rail line (Green Line). The following discusses key issues related to the vehicles, stations and signal systems.

Vehicles

Each rail line uses a different vehicle, reflecting the historic development of the system. The replacement of heavy rail vehicles is complicated by the incompatibility of these vehicles and the difference in size between MBTA vehicles and those used by other U.S. transit systems. New rapid transit cars will replace obsolete vehicles and will provide additional capacity for planned service expansion. A fleet of 94 new Blue Line vehicles is expected for 2004.

The MBTA is in the process of introducing new low floor light rail vehicles (LRVs) in service along the Green Line. The size of the Green Line tunnel and the use of doors on both sides of the vehicles makes the Green Line unique among LRVs in the U.S. and requires custom designs. The new LRVs feature low-floor boarding platforms, automated on-board announcements, and digital message signs. These vehicles will help the MBTA comply with the Americans with Disabilities Act (ADA). The new Green Line cars in combination

Figure 14
State of Good Repair



State of good repair is an ongoing process of regular investment in the entire transit infrastructure to ensure that the system is well maintained.



The MBTA is modernizing Red Line stations in Dorchester, including Savin Hill station.

TRANSIT CUSTOMER BILL OF RIGHTS

In 2000, the MBTA announced a customer “Bill of Rights” that describes minimally acceptable levels of service for its riders and provides access to top MBTA managers to address complaints. The service has been marketed at stations and on the MBTA website. The following is from the MBTA website:

“The MBTA Customer Service guarantee is based on the following terms and conditions: If any portion of your trip is delayed over 30 minutes, you are eligible for a complimentary fare. On-Time Service Guarantee requests must be received within 30 days of the delay to redeem your complimentary fare. Reply cards are available at subway collectors booths, on all buses and at the following station schedule areas: North Station, South Station, Route 128 and Back Bay Stations”

This effort provides a significant step forward by the MBTA. Opportunities for improvement include issuing a yearly report card to identify successes and provide focus for areas that need additional work.

with power system improvements will allow the MBTA to operate three-car trains on some branches of the service, increasing capacity and improving operating conditions.

Station Modernization

The MBTA has a continuing program to upgrade stations to make them compliant with ADA requirements. More than half of the Red Line, Orange Line and Blue Line stations are now ADA accessible, and improvements are planned for the remaining stations. The procurement of new Green Line vehicles will coincide with station improvements that will make the light rail service ADA compliant. The MBTA has included ADA-related improvements in station reconstructions that also include lengthening platforms to add capacity. The Kenmore Square station is being renovated to be wheelchair-accessible and to improve the bus station.

Many Blue Line stations have been renovated recently or are under construction. When complete, Airport Station will have an at-grade transfer to shuttle buses. Rehabilitation of Maverick Station is to be completed by 2005 and Orient Heights by 2008. The MBTA has begun planning for the reconstruction of Red Line stations in Dorchester. Red Line and Orange Line platforms were extended in the 1980s to accommodate six-car trains. Six-car trains will be used on the Blue Line when new rolling stock arrives. This will require removing walls at Maverick and State.

Signal System

The capacity of the rapid transit system can be affected by the operation of the signal system that is used to safely space trains. Older equipment is currently in use on the Orange Line from Chinatown Station to Oak Grove. This equipment reduces the carrying capacity of the system because it limits service frequency. The MBTA plans to upgrade this section of track with an Automatic Train Operating (ATO) system by 2007.

The City of Boston makes the following recommendations for the Red, Orange, Blue and Green Lines:

- Rehabilitate Maverick, Orient Heights, and other Blue Line stations in a timely fashion.
- Expedite the reconstruction of the Red Line stations in Dorchester.
- Expedite improvements to Orange Line capacity through signal upgrades and increased frequency.

- Improve the Green Line's Central Subway by increasing the use of three-car trains and by using dynamic double berthing at Park Station to increase throughput.
- Complete the rehabilitation of Kenmore Square station. Widen the existing pedestrian tunnel and construct an east end headhouse.
- Increase the use of automated station stop announcements on all lines.
- Improve the announcement of train delays.
- Add heating elements at outdoor station stops.
- Add weather-protected, secured bicycle parking at key stations.
- Implement transit signal priority for the Green Line B, C, and E branches.
- Increase the use of video monitors for security.
- Establish a rider code of conduct that will include such items as not blocking doors.
- Increase the use of Advanced Traveler Information Systems (ATIS) such as real-time vehicle arrival announcements and signs.

Local and Express Bus

There are 377,000 daily local MBTA bus trips on 157 routes; 44% of these trips are on routes that run entirely within Boston and another 33% are on routes that serve another community but also cross the Boston city line. Many routes feed the subway system. Some of the heaviest routes provide cross-town service.

Operations

Operating buses in mixed traffic on congested urban roads can be difficult. Buses on high-frequency routes tend to bunch together, creating packed loads and long gaps in service. The MBTA should proactively intervene to reduce bunching, which can be accomplished through improved service planning and real-time operations control. The installation of Automatic Vehicle Location (AVL) systems guided by Global Positioning Satellites (GPS) would greatly facilitate this improvement. AVL should be expanded to the entire bus fleet, starting with the highest frequency routes.

SIGNAL PRIORITY

A traffic signal priority system gets transit vehicles through signalized intersections more quickly. A green light can be held longer or the green phase can start sooner in order to get the transit vehicle through without stopping.

The Silver Line on Washington Street has signal priority at four intersections. Each Silver Line vehicle is equipped with an on-board computer ("vehicle logic unit" or VLU) and a GPS receiver. The route profile is stored in the VLU. When the VLU determines that the bus is within a critical distance, initially 500 feet, of a priority-equipped intersection, it sends a radio signal giving vehicle number and location to the MBTA Bus Control Center (BCC).

The computer system at the BCC checks the schedule information to determine if the bus is late (initially defined as 30 seconds or more behind the schedule). If it is not late, nothing further happens. If it is late, a priority request is sent via T1 lines to a kiosk adjacent to the bus stop at each intersection. The kiosk is hardwired to the signal controller at that intersection. The same communication channels are used to send a notice from the bus to the signal controller that the bus has reached the intersection.

The intersection controller sends the request to the BTD Transportation Emergency Control (TEC) center at City Hall. The computer system at the TEC center then determines whether to change the traffic light cycle. If the bus is expected to arrive within the next green phase, no action is necessary. If the bus is expected to arrive after the next green phase (within a predetermined range), the green light is extended, unless the bus reaches the intersection before the extension is needed. If the bus is expected to arrive after the green and after the extension period, but before the next regular green phase, an early green light is displayed. However, neither type of priority is granted in two succeeding cycles or if traffic queues on the cross street exceed a predetermined length.

MAKING BUSES CLEANER

Emissions from buses and other heavy duty vehicles contribute disproportionately to regional ozone (smog) and particulates (soot). However, buses have gotten much cleaner in the past decade, thanks to emissions controls mandated by US EPA. But the MBTA still has many old buses in operation. Removing these from our streets will provide the largest reduction in emissions.

New fuels such as compressed natural gas (CNG) offer the possibility of even cleaner buses. However, new diesel buses equipped with particulate traps and operated on ultra-low sulfur diesel fuel are about as clean as CNG. Clean low-sulfur diesel buses cost less to purchase and operate than CNG and do not require expensive reconstruction of bus maintenance yards and depots.

NIGHT OWL SERVICE

In September 2001, the MBTA began Night Owl late-night service on a temporary basis. These bus routes shadow the subway lines and continue the key bus lines, extending Friday and Saturday evening service from 12:30 to 2:30 a.m. This additional two hours makes transit available for late-shift workers and those staying out late on weekends. Night Owl service has generally met the MBTA's ridership expectations, but some routes are attracting much higher ridership than others.

The MBTA is currently evaluating the Night Owl service. BTDA supports the continuation of the service with, if required, re-allocation of resources from less used routes to those with high ridership.

BTDA can help to improve bus service by increasing enforcement, retiming traffic signals, and by giving priority to transit vehicles on major routes (see Chapter 5 on Transit Priority Corridors). Better parking enforcement is needed. Double parking slows down traffic flow, especially buses. Illegal parking in bus stops is also a problem. Buses cannot pick up passengers in wheelchairs if they cannot reach the curb.

The MBTA's service planning process evaluates the performance of all bus routes with the aim of reallocating resources to increase ridership for a fixed amount of subsidy. This process has been conducted only twice, in 1998 and 2002. Better data, either from automatic fare collection (AFC) or automatic passenger collection (APC) is essential for service planning, an important tool to improve the quality of service and increase ridership.

The MBTA has expanded hours of operation on bus lines to meet special needs. Bus routes serving Logan Airport start service at 4:00 a.m., before subways are running. In 1994, the MBTA started three crosstown "CT" routes to improve circumferential service. The MBTA is planning several more CT routes as phase I of the Urban Ring project.

Vehicles and Emissions

The MBTA is planning to purchase more than 400 new buses, most of which are designed to operate on compressed natural gas (CNG). The advantage of this alternative fuel is its lower emissions. Reducing particulate and gas emissions that contribute to soot and smog is important for Boston's air quality (see box, Making Buses Cleaner). The MBTA has started to use low-sulfur diesel fuel at the Charlestown and Cabot bus depots. This fuel reduces particulate emissions directly and also permits the installation of particulate traps and other emissions control devices that can dramatically reduce particulate and nitrous oxide emissions. The MBTA plans to install 100 particulate traps on existing buses.

The MBTA has ordered dual mode buses to be used on the tunnel portion of the Silver Line. These vehicles use diesel power on surface streets and electric power in the tunnel. The Washington Street section of the Silver Line will have articulated CNG buses. Some of the other new buses will be 60-foot, articulated vehicles. These have an accordion-like middle section that allows the longer bus to take a tighter turn than a standard 40-foot bus. (Green Line vehicles are also articulated.) These "artics" will provide increased capacity for heavily used routes.

Passenger Information

The lack of even basic information at bus stops is a major customer complaint. Most stops currently are marked with “No Parking Bus Stop” signs, but no information about the route served, hours of service, destinations, schedules, etc. The MBTA has started to install improved signs on the ten most heavily used bus routes, all of which serve Boston (see box).

The MBTA should also improve stop announcements. These can be done automatically, with a GPS-based Public Address and Variable Message Sign (PA/VMS) system, sometimes called “Talking Bus.” The MBTA has equipped 95 buses with PA/VMS, and has ordered this equipment on all new vehicles. Automatic Vehicle Location (AVL) systems can be used to provide “real time” projected arrival times at bus stops. These will be deployed as part of the Silver Line project, and should also be expanded to all heavily used routes.

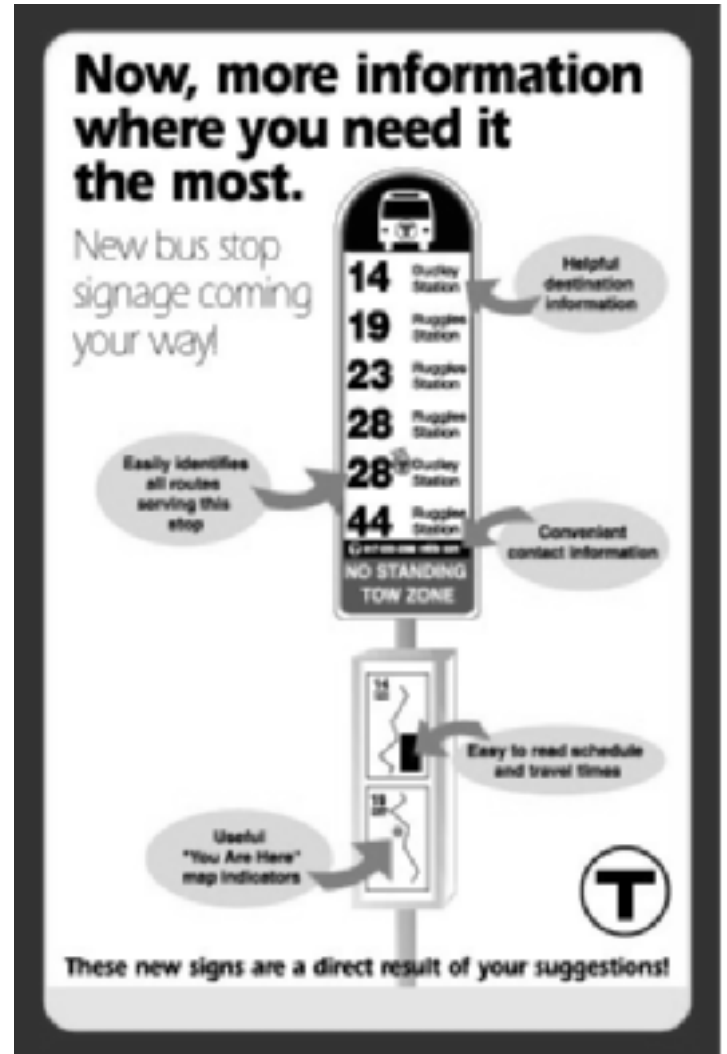
The MBTA has a project to add 300 bus shelters between 2002 and 2007. The City of Boston is installing an additional 250 shelters, provided by Wall USA. The most-used corridors have priority to receive shelters. However, the sidewalk must be wide enough to accommodate them. These shelters will include system maps and other passenger information.

Express Bus

The MBTA has altered express bus routes to take advantage of the Ted Williams Tunnel and to provide better distribution of service around Government Center in the downtown. These connections increase transit access from the North Shore and eliminate the need for multiple transfers to go to the South Boston Waterfront and Financial District.

The City of Boston makes the following recommendations for local and express bus service:

- Retire all 575 pre-1994 diesel buses by 2004.
- Use low-sulfur fuel and particulate traps on all remaining diesel buses.
- Add automatic stop announcement and automatic vehicle location equipment to all buses.



Starting in 2002, the MBTA has started to install basic passenger information signs along major bus routes.



Federal Street is a major express bus hub in downtown Boston.



Addressing traffic circulation issues at Forest Hills Station will be key to improving transit service in Jamaica Plain.

- Install automated passenger counters and produce annual reports on bus performance. Use these data to develop a service plan every two years.
- Improve coordination between the City and the MBTA as to the installation of bus shelters.
- Make an improved and redesigned Night Owl service a permanent feature of the system.
- Improve routing of express buses through downtown and provide shelters.
- Create a peak-hour bus lane on Brookline Avenue between Yawkey Station and the Longwood Medical Area (LMA). Install a bus lane on the Fenway. Extend route 55 to the LMA and provide Turnpike Express service.
- Increase frequency and reduce bunching and crowding on heavily-used bus lines including routes 8, 15, 19, 22, 23, 28, 39, 42, 44, 45, 57, and 66. Chapter 4 has more specific suggestions for improving many of these routes.

Improving Transit Access for Jamaica Plain

The E branch of the Green Line used to terminate at Forest Hills (the Arborway) but has not run further than Heath Street since 1985. The MBTA had difficulty running trolleys on the narrow portion of the route due to interference from parked motor vehicles.

Since 1985, bus route 39 has served the corridor from Forest Hills to Copley Square and Back Bay Station. On payment of the subway fare, a free transfer to the Green or Orange Lines is available, but only at Copley and Back Bay. Service is scheduled to operate every 4 minutes or less during the peak hour, and no less frequently than 12 minutes in the off peak.

Following a November 2001 decision of the Massachusetts Department of Environmental Protection, the MBTA must restore Green Line trains to the corridor in order to keep the state's commitment to transit mitigations related to the Central Artery/Tunnel project. A key design consideration is the need to construct ADA-compliant platforms at stations on South Huntington, Centre Street and South Street. This necessitates raised platforms along the curb on Centre Street and South Street. The design and construction process is expected to last at least four years.

In spring 2002, the MBTA established a citizen's advisory committee, the Arborway Rail Restoration Project Advisory Committee (ARRPAC), to guide the restoration process. BTD has established a City inter-agency team to work with the committee to review the design work.

The City of Boston makes the following recommendations for improving service to Forest Hills:

- The MBTA should take the following interim measures to improve Route 39: consolidate and relocate stops; issue subway transfers on payment of \$1 fare anywhere along the route; improve operations control to reduce bunching; add automatic vehicle location and stop announcements; provide route and system information at all stops.
- Arborway service should be restored only if existing functions of the corridor right-of-way can be maintained including emergency vehicle access, deliveries, parking, traffic circulation and pedestrian safety.
- The MBTA should work with BTD to prepare a transportation mitigation program. This program should include a traffic study of the South Huntington, Centre, and South Streets corridor and including the Jamaicaaway and the Forest Hills Station area. The study should consider access for emergency vehicles and protecting neighborhood streets from overflow traffic. The detailed scope of the program should be developed in consultation with the community and the Boston Transportation, Police, Fire, and EMS departments. The program should include:
 - A parking impact study that addresses visitor, employee, and delivery parking needs.
 - Measures that address pedestrian and bicyclist safety including installation of devices to prevent falling hazards from bicycling along streetcar tracks.
 - A construction plan that ensures that the corridor is open for business at all times.



The Massachusetts Department of Environmental Protection has required the MBTA to restore Green Line service to Forest Hills.



Centre Street in Jamaica Plain is a busy neighborhood business district.



Yawkey Station near Fenway Park used to be open only for Red Sox games but now has some regularly scheduled service.



In the 1990s, the MBTA began to add new double-decker cars to the commuter rail fleet. These modern passenger cars increase capacity without increasing the overall length of the train.

Commuter Rail

The MBTA operates thirteen commuter rail lines that terminate at either South Station or North Station, and a light rail line (Green Line). The following discusses key issues related to service, vehicles, stations and parking.

Service

The MBTA's Commuter Rail system provides train service to downtown Boston from 12 lines reaching most parts of eastern Massachusetts. Service and ridership have increased in recent decades. There are 13 stations in Boston neighborhoods outside the downtown. Roughly 6,000 trips per day originate at these stations. The most heavily used of these are Ruggles (900 boardings) and Hyde Park (875 boardings).

There are opportunities to enhance service along existing commuter rail lines. A new stop could be added at Allston Landing to serve the surround neighborhood and the proposed expansion of Harvard University. The MBTA is studying service enhancements to the Fairmont Branch that travels from Hyde Park, through Dorchester and into South Station. Additional stations at several key neighborhood centers and a higher frequency of service would significantly increase transit accessibility to an area that is not served by the rapid transit system. This topic is discussed more in Chapter 6.

Vehicles

The MBTA has recently upgraded a portion of the commuter rail fleet through the purchase of new engines and double-decker trains. Additional cars will be purchased to accommodate the demands of new services that are under construction or planned. All new and rehabilitated commuter rail cars should provide a space to conveniently secure bicycles.

Stations

A platform was recently added at Yawkey Station to improve commuter rail service. The MBTA added two inbound train stops in the morning and two outbound train stops in the evening rush hour. This regularly scheduled service to Yawkey Station improves access to Fenway Park, Kenmore Square and the Longwood Medical Area, which is accessible via shuttle bus service from the station.

A new commuter rail platform at JFK/UMass on the Old Colony line was recently completed. The station currently is served by the Red Line and shuttle buses to the University of Massachusetts/Boston. The commuter rail stop provides access to the Bayside Exposition Center, UMass, and destinations on the Red Line.

With all the new commuter rail service to the south of Boston, South Station is facing severe capacity constraints. Ridership increased 54% between 1995 and 2000. A single delayed train can affect the entire peak-period operation. The opening of the Greenbush line will complicate operations. Additional platform space is needed (see page 51).

Park and Ride

Most MBTA parking lots are full well before 8:00 a.m. This constrains transit availability for commuters and midday travelers who are not within convenient walking distance of a station or feeder bus route. The MBTA has added approximately 20,000 parking spaces system-wide since 1991 and continues to construct parking at regional transit facilities. Modestly higher parking fees at MBTA lots might encourage some commuters to walk, bicycle, or carpool to MBTA stations, providing more space for those who cannot. The revenue collected could be used to increase the amount of parking available.

The MBTA has been improving bicycle parking at stations. Federal Transit Enhancement funds are available for this purpose. However, bicycle lockers exist at only one station, South Acton. Bicycle parking monitored by video cameras should be installed at one or more of the major downtown stations: Back Bay, South Station, or North Station. This topic is discussed more in Chapter 6.

The City of Boston makes the following recommendations for commuter rail:

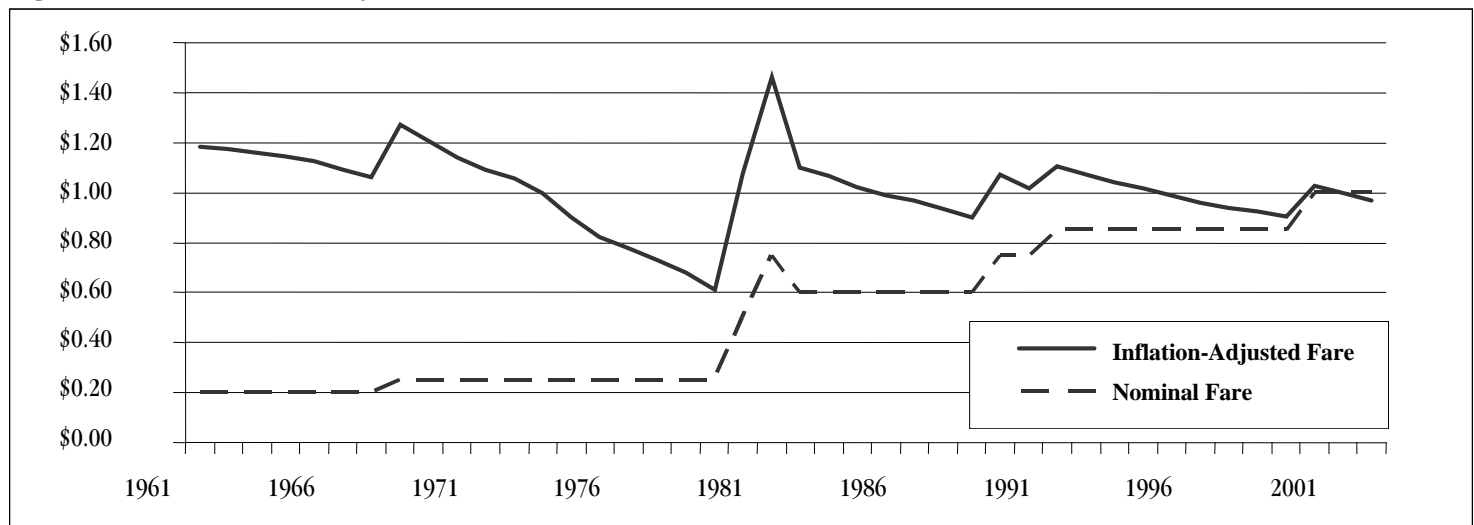
- Increase platform capacity at South Station.
- Create a commuter rail station stop at Allston Landing.
- Use Yawkey Station full time.
- Increase parking fees at park-and-ride stations to encourage more efficient use of available spaces and to provide additional revenues to build new parking spaces.
- Provide parking spaces for car-sharing vehicles and secure bicycle parking at commuter rail stations.
- Plan new commuter rail stations in coordination with station area real estate development.
- Move the entrance to the Blue Line parking lot at Orient Heights.



Many MBTA parking lots like this one at Wellington Station are full early in the morning due to the popularity of MBTA services among suburban commuters to Boston.



Bicycle lockers like these provide an alternative parking resource at transit stations. The MBTA provides bicycle parking lockers at the South Acton commuter rail station and bicycle racks at many other locations.

Figure 15 – MBTA Fare History

Fare Policy and Collection

MBTA fares increased by an average of 25% on July 1, 2000. As Figure 15 illustrates the current fares are now comparable to fares charges in the early 1960s adjusted for inflation. New transfer and pass policies were implemented in response to comments from the City of Boston and advocacy groups. A Blue Ribbon Committee established by the MBTA Board of Directors recommended that the MBTA increase the *farebox recovery ratio* (passenger revenue as a percentage of operating costs) from 33 percent to 50 percent. The fare increase in 2000 brought the ratio up to roughly 41%. The MBTA has announced that further increases of just under 10% will take place in 2003 and again in 2005 to meet the stated goal.

Transfers

As part of the 2000 fare increase, the MBTA implemented a bus-to-bus transfer policy. The transfer is issued free of charge at the time that the fare is paid and is valid for two hours from time of issuance. The transfer can be used for travel within a zone. Riders pay the difference for longer travel. The transfer is not valid on some express bus routes. Although the new bus-to-bus transfer is a positive step, the larger problem is that there is no bus-to-rail transfer. Customers who must take a bus to get to or from a rail line pay twice: \$0.75 for bus and \$1.00 for rail, for a total of \$1.75, or 75% more than subway riders pay. This price differential is also reflected in the cost of monthly passes: the bus + rail pass currently costs 63% more than the rail only pass. The introduction of a free transfer in New York City beginning in 1997 led to a 35% increase in ridership and an increase in revenue.

Passes and Automatic Fare Collection

The MBTA offers a monthly pass program that provides unlimited trips, with separate passes for local bus, express bus, subway, bus and subway, ferryboat, and for each commuter rail zone. There are also semester passes for students, annual passes, multi-ride commuter rail and express bus cards, tourist passes, and a weekly bus and rail pass introduced in 2000. Monthly passes use magnetic strips with card readers on fareboxes and turnstiles. The other types of passes must be shown to the driver or token seller.

The MBTA is planning to install automatic fare collection (AFC) equipment by 2005. It will include ticket vending machines, electronic turnstiles, a central computer, and a variety of communications equipment. The AFC system should be able to handle (a) stored value cards that permit transfers (including between bus and rail) within a time-limited period, (b) discounts for bulk purchases, and (c) season pass cards that can be activated for any period (such as 1, 7, 30, or more days). The system might also allow payment for other items such as parking and subsidized private carriers.

The main issue in setting monthly pass prices is the breakeven number of rides: how many rides per month must one expect to take to make the pass worthwhile? Those using the pass for travel to work only will travel 20 or 21 days per month, making 40 or 42 trips. Many large transit agencies set the monthly pass price higher than the cost of 40 single-fare trips (see Table 9). MBTA passes, by contrast, are priced at the equivalent of 33 to 36 trips per month. In fact, subway pass holders average 55 trips per month and bus pass holders average 63 (CTPS 1999 Pass Users Survey).

Table 9 – Transit Fare, Pass Price, and Breakeven Trips in Large North American Cities

CITY	CASH FARE	DISCOUNT FARE	MONTHLY PASS	BREAKEVEN TRIPS ¹
New York	\$1.50	\$1.36	\$63	46.2
Chicago	\$1.50	\$1.36	n/a	n/a
Los Angeles	\$1.35	\$0.90	\$42	46.7
Toronto	\$2.25	\$1.80	\$93.50	51.9
Washington	\$1.10	\$0.99	\$100	31 to 91 ²
Philadelphia	\$2.00	\$1.30	\$70	53.8
Vancouver	\$1.75	\$1.60	\$63	36.0
San Francisco	\$1.00	\$0.80	\$35	43.8
Seattle	\$1.50	n/a	\$54	36.0
Portland	\$1.25	\$1.15	\$45	39.1
Boston – Bus Only	\$0.75	n/a	\$27	36.0
Boston – Subway Only	\$1.00	n/a	\$35	35.0
Boston – Subway + Bus	\$1.75	n/a	\$57	32.6

Note: 1. Monthly pass cost divided by cash fare (based on discount fare, if available).
 2. Base fare varies with distance.

Bulk Discounts

Many transit systems now offer bulk discounts for purchasing fares in quantity. The discount is at least 8% to 10% but as much as 20% to 30%. Most agencies require a purchase of \$9 to \$10 to receive the discount. Introducing discounts like this can increase revenue without reducing ridership. People sensitive to price will seek the discounted fares and will not be deterred from using transit because the price is too high. Those who are indifferent (such as those with higher incomes or occasional users) will pay the higher price.



The MBTA's new Automated Fare Collection system will consolidate many of the existing fare media.

PROOF OF PAYMENT FARE COLLECTION

Proof of payment (POP) fare collection is designed to speed boarding by reducing or eliminating fare collection by the operator and permitting boarding on all doors. It is especially helpful on vehicles with many doors such as articulated buses and light rail vehicles. A simple version is to permit those with passes to board from the rear door(s) while requiring those paying cash to board from the front door. Alternatively, ticket vending and validating machines can be placed at all stops, thereby eliminating the need for the driver to take cash. In either version, ticket inspectors make random checks for “proof of payment,” which can be a validated ticket, transfer, or pass. Fines that typically range from \$70 to \$150 can be levied against offenders.

Proof of payment was been implemented with every new light rail line deployed in North America since the 1970s. San Francisco converted its older light rail operation to POP beginning in 1998. It is also used on some commuter rail systems and on articulated buses in Ottawa. In Europe, POP is used extensively on buses, streetcars, and even some subways.



The MBTA recently initiated a pilot program to allow Proof of payment on selected Green Line stations.

The City of Boston makes the following recommendations for fare policy and collection:

- Advise the MBTA to establish a committee to guide automatic fare collection implementation and changing fare structures. The City of Boston recommends that the committee adopt the following principles in its policies:
 - Fare increases should be in conjunction with improvements in service
 - Fares should be structured so they can be modified with Electronic Payment System installation to enable a more finely stratified fare pricing system.
 - Fare policy should be centered on economic fairness and equity to ensure that neighborhoods with more riders do not bear the burden of a fare increase.
- Eliminate the double payment for a joint local bus and subway trip. This can be done electronically with automatic fare collection (AFC) and with paper transfers before AFC is implemented. To offset the reduced revenue from free transfers, increase the breakeven number of trips for monthly passes in conjunction with future fare increases.
- Support continued subsidy for school children and the elderly. The Boston School Department provides passes to some 15,000 students.
- Introduce discounts on bulk purchases of tokens or local bus tickets (such as ten packs). For example, when base fares are raised in 2003, the bulk price could be kept at the current \$1 fare.
- Implement proof-of-payment fare collection on the surface portion of the Green Line and major bus routes.
- Offer a discounted annual pass.

Action Plan

Delivering and Enhancing Transit Service

Create a “Don’t Block the Bus” Program

BTD and MBTA should initiate a high-visibility enforcement and pavement marking program to target cars parked illegally at bus stops. BTD should work with the MBTA to consider relocating or consolidating stops. Consideration should also be given to allowing parking in bus stops when they are not in active use, such as during the night.

Implement an Annual Report Card to Evaluate the Effectiveness of the MBTA’s “Bill of Rights”

The MBTA should provide information to the MBTA Advisory Board that could be used to create an annual report card of MBTA service. The information should be generated from the data gathered from the Customer Service Guarantee forms.

Eliminate the Double Fare and Preserve Ridership when Increasing Transit Fares

The bus plus rail double fare should be eliminated by providing bus to rail transfers and a lower cost combo pass. In order to meet its increased fare revenue goals, the MBTA should raise fares only in such a way as to have the least impact on ridership. The best way to do this is to raise the single-trip fare and introduce a discount for multi-trip tickets.

Reduce Bus Emissions

The MBTA should make retirement or repowering of its 575 pre-1994 buses its top priority. Changing some of the planned CNG purchases to clean diesel running on low-sulfur fuel should be considered to provide overall lower emissions and capital and operating cost savings.

Upgrade Transit Service on the Arborway Corridor

The MBTA should enhance the current level of transit service on the Arborway corridor. The MBTA should make immediate improvements such as better passenger information, free transfers anywhere along the route, and operations control to reduce bunching of the 39 route. In the long term, the reintroduced rail service should account for problems of illegal parking, loading, ADA access, emergency vehicles, pedestrians, and safe travel of bicyclists crossing streetcar tracks.

Improve Night Owl Service

The MBTA should continue to operate the all-night Night Owl service. Sections of the city where overnight shifts are common are especially in need of this service. Examples include Logan Airport, the US Post Office General Mail Facility, hospitals in the Longwood Medical Area, and areas with concentrations of restaurants and entertainment venues such as the Theater District, Back Bay and Kenmore Square. The MBTA should work with BTD and employers to identify potential routes. Consideration should be given to services within the city and to express routes that would connect employment centers with park-and-ride locations at suburban rapid transit stations.

Expand Automatic Vehicle Location to All Buses

The MBTA should add automatic vehicle location (AVL) technology to all buses in the fleet. Current plans call for some new buses to be equipped with AVL, but not many existing buses will be retrofitted with AVL. Equipping the entire fleet will enable dispatchers in the MBTA's control center to know precisely where all vehicles are at any given time. The MBTA should also adopt policies to use this improved information to reduce bus bunching on all high-frequency routes.

Minimize the Impact of Transit Maintenance Facilities

Close the Bartlett Garage as planned. Restrict the new Arborway Garage as per the agreement with the community. Include BTD in studies of planned new and remodeled bus maintenance facilities.

Modernize Stations with support from Private Development.

BTD, in coordination with the Boston Redevelopment Authority, should work with the MBTA to seek funding support from developers to modernize stations in the vicinity of their projects. A recent example is the incorporation of the E Line Prudential Center station into the 111 Huntington Avenue project. The developer of Columbus Center will also incorporate a Back Bay Station headhouse in the proposed air-rights project.